5.2 BIOLOGICAL RESOURCES

This section describes existing biological conditions within the Ponto Area, identifies associated regulatory requirements, and evaluates potential impacts (including cumulative impacts). An environmental conditions report and a jurisdictional delineation report were prepared by RECON Environmental, Inc. (RECON; Appendices C-1 and C-2, respectively), based upon the following biological resource surveys performed in the study area in 2003: vegetation mapping, general botanical survey, and jurisdictional delineation fieldwork.

In 2006, HELIX Environmental Planning, Inc. (HELIX) prepared a Biological Technical Report based upon the following biological resource surveys conducted within the study area: verification of vegetation mapping, rare plant survey, and protocol coastal California gnatcatcher (*Polioptila californica californica*) surveys; refer to Appendix C-3.

5.2.1 Existing Conditions

The study area considered in the biological analysis included the larger approximately 130-acre Ponto Beachfront Village Vision Plan Area to allow for consideration of project impacts on existing biological systems on-site, as well as on adjoining areas that may be affected by development of the Ponto Area. The biological study area currently supports residential/small-scale commercial uses, South Carlsbad State Beach (including campgrounds and parking facilities), Carlsbad Boulevard and other roadways, and undeveloped land. The inflow/outflow channel for Batiquitos Lagoon is located in the southern portion of the study area.

Regional Conservation Context

The study area lies within the North County Multiple Habitat Conservation Program (MHCP) Subregional Plan area. The MHCP Subregional Plan was adopted and certified by the San Diego Association of Governments Board of Directors on March 28, 2003. Each of the seven jurisdictions within the MHCP planning area (including the City of Carlsbad) are required to implement their respective portion of the MHCP via citywide subarea plans. On November 15, 2004, the City of Carlsbad's Habitat Management Plan for Natural Communities in the City of Carlsbad (City HMP; 2004) was approved, and state and federal permits were issued to allow implementation of the Plan.

Regulatory Issues

Biological resources within the study area are subject to regulatory review by the federal government, State of California, and City of Carlsbad. The federal government administers non-marine plant and wildlife issues through the U.S. Fish and Wildlife Service (USFWS), while wetlands and Waters of the U.S. issues are administered by the U.S. Army Corps of Engineers (Corps). California law relating to wetlands and wildlife issues is administered by the California Department of Fish and Game (CDFG).

Federal Government

Administered by the USFWS, the federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the

ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7 and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. A special rule under Section 4(d) of the ESA was finalized which authorizes "take" of certain protected species under approved Natural Communities Conservation Programs (NCCPs), which are administered by the states. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A Section 7 consultation is required when there is a nexus between endangered species' use of a site and impacts to Corps jurisdictional areas. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a habitat conservation plan (HCP). The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits. The City of Carlsbad met the requirements of the Section 10(a) with the approval and implementation of the City's HMP and now has authorization from the resource agencies to issue take permits (as necessary) for proposed projects.

The USFWS identifies critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. No critical habitat occurs within the study area; however, critical habitat for San Diego fairy shrimp (*Branchinecta sandiegonensis*), Riverside fairy shrimp (*Streptocephalus woottoni*), and spreading navarretia (*Navarretia fossalis*) occurs approximately 300 feet northeast of the study area.

All migratory bird species that are native to the U.S. or its territories are protected under the federal Migratory Bird Treaty Act (MBTA), as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127; USFWS 2004). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, USFWS places restrictions on disturbances allowed near active raptor nests.

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the Clean Water Act. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of all Waters of the U.S. Permitting for projects filling Waters of the U.S. (including wetlands) is overseen by the Corps under Section 404 of the Clean Water Act. Projects could be permitted on an individual basis or be covered under one of several approved nationwide permits. Individual permits are assessed individually based on the type of action, amount of fill, etc. Individual permits typically require substantial time (often longer than six months) to review and approve, while nationwide permits are pre-approved if a project meets appropriate conditions. It is assumed

that (as applicable) development of the Ponto Area would require a Clean Water Act Section 404 nationwide permit from the Corps and a Clean Water Act Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB).

State of California

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes the CDFG to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes.

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The California ESA followed the NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under the NPPA were also designated rare under the California ESA.

The California Fish and Game Code (Sections 1600 et seq.) requires an agreement with the CDFG for projects affecting riparian and wetland habitats through issuance of a Streambed Alteration Agreement. It is assumed that development (as applicable) of the Ponto Area would require a 1602 Agreement from the CDFG.

CEQA and its implementing guidelines (CEQA Guidelines) require discretionary projects with potentially significant effects (or impacts) on the environment to be submitted for environmental review. Mitigation for significant impacts to the environment is determined through the environmental review process, in accordance with existing laws and regulations.

Raptors (birds of prey) and active raptor nests are protected by California Fish and Game Code 3503, which states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized (CDFG 1991).

City of Carlsbad

The NCCP Act (Section 2835) allows the CDFG to authorize take of species covered by plans in agreement with NCCP guidelines. An NCCP initiated by the State of California under Section 4(d) of the federal ESA focuses on conserving coastal sage scrub to avoid the need for future federal and state listing of coastal sage scrub-dependent species. The coastal California gnatcatcher is presently listed as threatened under the federal ESA, while several additional species inhabiting coastal sage scrub are candidates for federal and/or state listing. The MHCP and City's HMP (discussed above) meet the requirements under the NCCP and HCP processes.

A small portion of the study area is located within Focused Planning Area (FPA) Core 8, which includes Batiquitos Lagoon; refer to Figure 5.2-1. According to the City's HMP, Batiquitos Lagoon supports sensitive plant and animal species and is a critical foraging area for American peregrine falcon and California brown pelican. Core 8 provides linkage to other Core FPAs both within and outside the City. Batiquitos Lagoon is included in an existing Hardline Conservation Area.

The City's HMP includes unique conservation goals and standards which apply to specific parcels in certain areas of the City. The parcels are designated as "Standards Areas." The

goals and standards are arranged in the HMP according to the Local Facility Management Zone (LFMZ) in which they occur. The Ponto Area is within LFMZ 9 and 22; refer to Figure 5.2-1. No Standards Areas exist within the City HMP for LFMZ 9 or 22.

In addition, the City's HMP establishes zone-level recommendations for each of the 25 LFMP zones. The zone-level recommendations for LFMP Zone 9 include: (1) monitor breeding populations of terns, plovers, and sparrows, and continue predator control where necessary; and (2) use fencing and signs, as necessary, to minimize human intrusion in or near nesting or roosting areas for HMP-covered species such as terns, pelicans, and rails. HMP management goals and guidelines for LFMP Zone 22 include: (1) manage vernal pool habitat to minimize adverse edge effects and maintain/enhance water quality of the pools; (2) stabilize sensitive species populations by removing impacts or potential impacts, including trampling, vehicular traffic, illegal dumping, collecting, and invasion of non-native plants; (3) use fencing and signs to restrict human intrusion and educate the public about vernal pool resources; (4) implement runoff or erosion control measures on adjacent properties, as necessary, to maintain appropriate amounts of water runoff into pool watersheds, while protecting water quality against potential pollutants; (5) monitor the status of preserved populations to ensure they remain viable.

According to the City's HMP, projects which conserve at least 67 percent of habitat on-site shall not be subject to off-site mitigation.

According to Chapter 21.203.040(B)(3), Coastal Resources Protection Overlay Zone, of the Carlsbad Municipal Code, the following policy applies to (1) areas west of existing Paseo del Norte, (2) west of Interstate 5, and (3) along El Camino Real immediately upstream of the existing storm drains:

> All development must include mitigation measures for the control of urban runoff flow rates and velocities, urban pollutants, erosion and sedimentation in accordance with the requirements of the City's Grading Ordinance, Stormwater Ordinance, Standard Urban Stormwater Mitigation Plan, Jurisdictional Urban Runoff Management Plan master drainage plan and the San Diego County Hydrology Manual and any amendments to them. Such mitigation shall become an element of the project, and shall be installed prior to the initial plan and any amendments to them for the area between the project site and the lagoon (including the debris basin), as well as revegetation of graded areas immediately after grading; and a mechanism for permanent maintenance if the City declines to accept the responsibility. Construction of drainage improvements may be through formation of an assessment district, or through any similar arrangement that allocates costs among the various landowners in an equitable manner.

Vegetation Communities

Fourteen vegetation communities, as well as disturbed habitat and developed land, were identified within the study area and include: 0.98 acre of southern coastal salt marsh, 0.17 acre of riparian woodland, 0.91 acre of southern willow scrub, 0.19 acre of mule fat scrub, 2.21 acres of coastal and valley freshwater marsh, 1.30 acres of marine, 0.03 acre of mud flat, 0.11 acre of disturbed wetlands, 4.3 acres of southern coastal bluff scrub (including disturbed), 25.4 acres of beach/coastal dunes, 5.2 acres of Diegan coastal sage scrub

(including disturbed), 0.2 acre of non-native grassland, 0.3 acre of eucalyptus woodland, 24.6 acres of disturbed habitat, 21.0 acres of non-native vegetation, and 43.4 acres developed acres. Descriptions of these communities are provided below, and their locations within the Ponto Area are shown graphically on Figure 5.2-2.

Southern Coastal Salt Marsh. Southern coastal salt marsh is a highly productive community composed of herbaceous and suffructescent, salt-tolerant hydrophytes that form a dense cover of up to one meter tall. This plant community is found along sheltered inland margins of bays, lagoons, and estuaries where the hydric soils are subjected to regular tidal inundation by salt water (Holland 1986). Dominate species usually include alkali-heath (*Frankenia salina*), California sea-blite (*Suaeda californica*), and/or glasswort (*Salicornia* sp.) occurring along the upper, landward edges of the marshes; glasswort and beachwort (*Batis maritima*) at middle elevations; and Pacific cordgrass (*Spartina foliosa*) closest to open water. Two areas of southern coastal salt marsh occur in the study area. Both areas are in the median between southbound and northbound traffic lanes of Carlsbad Boulevard. Southern coastal salt marsh covers approximately 0.98 acre within the study area and consists of pickleweed (*Salicornia virginica*) and alkali-heath.

Riparian woodland. Riparian woodlands are often similarly composed of winter-deciduous trees that require water near the soil surface. Willow (*Salix* ssp.), cottonwood (*Populus fremontii*), and western sycamore (*Platanus racemosa*) typically form a dense medium-height woodland in moist canyons and drainage bottoms. Associated understory species often include mule fat (*Baccharis salicifolia*), stinging nettle (*Urtica dioica* ssp. *holosericea*), and wild grape (*Vitis girdiana*). The differences between woodlands and forests are physiognomic rather than compositional. Woodlands have less canopy cover than forests, whose individual tree species canopies overlap so that a cover exceeding 100 percent may occur in the upper tree stratum, where woodlands may contain large canopy gaps in the same area. Woodlands may also have near total cover in the tree stratum but exist over a relatively small area. Within the study area, riparian woodland occurs in three small patches near the Least Tern Preserve and covers approximately 0.17 acre.

Southern willow scrub. Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows in association with mule fat, and with scattered emergent cottonwoods and western sycamores. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest (Holland 1986). In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest. Approximately 0.91 acre of southern willow scrub occurs within the southern portion of the study area adjacent to the parking lot.

Mule fat scrub. Mule fat scrub is a depauperate, tall, shrubby riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral community is maintained by frequent flooding, the absence of which would lead to a cottonwood- or sycamore-dominated riparian woodland or forest (Holland 1986). Although in some environments limited hydrology may favor the persistence of mule fat. Approximately 0.19 acre of mule fat scrub occurs within the southern portion of the study area adjacent to the parking lot.

Coastal and valley freshwater marsh. Coastal and valley freshwater marsh is dominated by perennial, emergent monocots which reach a height of 12-15 feet, often forming completely closed canopies. This vegetation community occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs. These areas are permanently flooded by fresh water yet lack a significant current (Holland 1986). Characteristic species include cattails (*Typha* sp.), spike-sedge (*Eleocharis* sp.), rush (*Juncus* sp. and *Scirpus* sp.), and umbrella sedge (*Cyperus* sp.). Within the study area the dominant plants within this vegetation community include southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), and California bulrush (*Scirpus californicus*). This vegetation community covers approximately 2.21 acres of the study area.

Marine. The area mapped as marine is unvegetated and consists of the channelized inflow/outflow for Batiquitos Lagoon. This habitat covers approximately 1.30 acres of the 130-acre study area.

Mudflat. A mudflat is a relatively level area of fine silt along a shore, as in a sheltered estuary or around an island, alternately covered and uncovered by the tide, and barren of vegetation. Approximately 0.03 acre of mudflat occurs within the study area.

Disturbed wetlands. Disturbed wetlands are dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These invasive non-native plant species displace the native wetland flora. Characteristic species of disturbed wetlands include giant reed (*Arundo donax*), bristly ox-tongue (*Picris echioides*), cocklebur (*Xanthium strumarium* var. *canadense*), and tamarisk (*Tamarix* sp.). Disturbed wetlands occur within the southern portion of the study area and cover approximately 0.11 acre.

Southern coastal bluff scrub (including disturbed). Southern coastal bluff scrub is dominated by low scrub forming continuous (or more scattered) mats. Most plants are woody and/or succulent. Dwarf shrubs, herbaceous perennials, and annuals are represented, with the majority of growth and flowering occurring from late winter through spring. This vegetation community is exposed to nearly constant winds with high salt content and the soil is usually rocky and poorly developed. Within the study area, southern coastal bluff scrub (including disturbed) occurs along the bluffs above South Carlsbad State Beach and covers approximately 4.3 acres. Plant species within this vegetation community within the study area include beach evening primrose *(Camissonia cheiranthifblia* ssp. *cheiranthifolia*) and sea rocket *(Cakile maritima*).

Diegan coastal sage scrub (including disturbed). Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Despite the fact that it has been greatly reduced from its historical distribution (Oberbauer 1991), the Diegan association is the dominant coastal sage scrub in coastal Southern California from Los Angeles to Baja California, Mexico (Holland 1986). Diegan coastal sage scrub was listed as the third most extensive vegetation community in the County in 1965 (CDFG 1965). Oberbauer (1979) and Oberbauer and Vanderwier (1991) suggest that nearly 72 percent of the San Diego County's original sage scrub habitat has been destroyed or modified, primarily a result of urban expansion.

Diegan coastal sage scrub is dominated by subshrubs whose leaves abscise during drought and are replaced by a lesser amount of smaller leaves. This adaptation of drought evasion allows these species to better withstand the prolonged drought period in the summer and fall in areas of low precipitation. Coastal sage scrub occurs on a variety of soil types, both chemically and physically, from sandy lithosols on siliceous sandstone to clay-rich chernozems on volcanic ash. Water is less likely to penetrate to depth in clay soils than in siliceous soils. Clay soils generally lose more moisture through runoff, have lower infiltration rates, store more moisture in an equivalent depth of soil, and are likely to lose a greater proportion of moisture through capillary action and transpiration from shallow-rooted species than siliceous soils. Thus, in areas of relatively low precipitation, fine-textured soils are more likely to favor the success of shallow-rooted species rather than deep-rooted species (Kirkpatrick and Hutchinson 1980).

Within the study area, Diegan coastal sage scrub (including disturbed) covers approximately 5.2 acres and occurs in several areas, including but not limited to, the median of Carlsbad Boulevard, atop the bluff overlooking Batiquitos Lagoon, and adjacent to the parking lot in the southern portion of the study area. The dominant native plant species within the study area include California sagebrush, California encelia (*Encelia californica*), and California buckwheat. Disturbed Diegan coastal sage scrub also includes species such as scarlet pimpernel (*Anagallis arvensis*), smooth cat's-ear (*Hypocharis glauca*), sour clover (*Melilotus indica*), and fountain grass (*Pennisetum setaceum*).

Beach/coastal dune. The beach community refers to the expanse of sandy substrate between mean tide and the foredune or, in the absence of a foredune, to the furthest inland reach of storm waves. The beach is characterized by a maritime climate, high exposure to salt spray and sand blast, and a shifting sandy substrate with low water-holding capacity and low organic matter content. Beach steepness, height, and width are affected by wave height, tidal range, sand grain size and supply. California's beaches tend to be relatively low and narrow. The lower half of the beach is relatively bare of plants, while the upper half is thinly vegetated with herbaceous perennials (Barbour and Johnson 1977). Beach vegetation exhibits a zonation of species from the tide line back to the foredune. In general, the number of species and total plant cover increases inland along this gradient. Species zonation is correlated with tolerance of salt spray, wave inundation, and soil salinity (Barbour and DeJong 1977). Common plant species within this vegetation community typically consist of sea rocket, beach evening primrose, beach-bur (*Ambrosia chamiossonis*), and beach morning-glory (*Calystegia soldanella*; Beauchamp 1986).

Active coastal dunes are barren, mobile sand accumulations whose size and shape are determined by abiotic site factors rather than by stabilizing vegetation. Dune size and shape varies with wind direction and speed, site topography, sand source, and grain size.

The western edge of the study area is bounded by the Pacific Ocean and also includes South Carlsbad State Beach. The beach is comprised mainly of sand with some plant species occurring on the fringe of the beach along the parking area and disturbed southern coastal bluff scrub. A portion of this area is periodically inundated with saltwater due to fluctuations of tidal flow. The dominant plant species on the vegetated fringe include crystalline ice plant (*Mesembryanthemum crystallinum*), beach-bur, sea rocket, beach evening primrose, and hottentot fig (*Carpobrotus edulis*). Beach/coastal dunes cover approximately 25.4 acres of the study area.

Non-native grassland. Non-native grassland is a dense to sparse cover of annual grasses, often associated with numerous species of showy-flowered native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Characteristic species include oats (*Avena* sp.), red brome (*Bromus rubens*), ripgut (*B. diandrus*), ryegrass (*Lolium* sp.), and mustard (*Brassica* sp.). Most of the annual introduced species that comprise the majority of species and biomass within the non-native grassland originated from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These two factors, in addition to intensive grazing and agricultural practices in conjunction with severe droughts, contributed to the successful invasion and establishment of these species and the replacement of native grasslands with an annual dominated non-native grassland (Jackson 1985). Within the study area, non-native grassland occurs in two small patches along Carlsbad Boulevard and covers approximately 0.2 acre.

Eucalyptus woodland. Eucalyptus woodland is dominated by eucalyptus (*Eucalyptus* sp.), an introduced species that has often been planted purposely for wind blocking, ornamental, and hardwood production purposes. Most groves are monotypic with the most common species being either the blue gum (*E. globulus*) or red gum (*E. camaldulensis*). The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter. If sufficient moisture is available, this species becomes naturalized and is able to reproduce and expand its range. The sparse understory offers only limited wildlife habitat; however, as wildlife habitat, these woodlands provide excellent nesting sites for a variety of raptors. During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. This vegetation community occurs in three small areas in the northern portion of the study area and covers approximately 0.3 acre.

Non-native vegetation. Non-native vegetation is the name ascribed to cultivated plants that have become naturalized in native habitat areas or that are remnants of previously cultivated properties. Non-native vegetation within the study area consists of hottentot fig, golden wattle (*Acacia longifolia*), and Peruvian peppertree (*Schinus molle*). This vegetation community occurs throughout the study area and covers approximately 21.0 acres.

Disturbed Habitat. Disturbed habitat includes land that has been cleared of vegetation (e.g., dirt roads), or contains a preponderance of non-native plant species. Disturbed land occurs within the flat terrace on the eastern portion of the study area and within portions of the Carlsbad Boulevard median. Dominant plant species within disturbed habitat within the study area include crown daisy (*Chrysanthemum coronarium*), telegraph weed (*Heterotheca grandiflora*), star thistle (*Centaurea melitensis*), and black mustard (*Brassica nigra*). Disturbed habitat covers approximately 24.6 acres of the study area.

Developed land. Developed land within the study area includes the South Carlsbad State Beach campground and parking facilities, an area consisting of light industrial and residential buildings, and Carlsbad Boulevard and other roads. Developed areas cover approximately 43.4 acres of the study area.

Jurisdictional Areas

Areas under Corps and CDFG jurisdiction occur within the study area. A jurisdictional delineation was conducted in 2003 and a report was prepared by RECON (2003b). HELIX

updated the jurisdictional vegetation communities in 2006 to be consistent with the updated vegetation mapping; however, HELIX did not conduct further jurisdictional delineation fieldwork.

Corps Jurisdictional Areas. Corps jurisdictional areas total 6.01 acres within the study area, consisting of 4.60 acres of wetlands and 1.4 acres of non-wetland Waters of the U.S.; refer to Table 5.2-2 and Figure 5.2-3.

CDFG Jurisdictional Areas. CDFG jurisdictional areas total 6.08 acres within the study area, consisting of 4.60 acres of wetlands and 1.2 acres of non-wetland Waters of the U.S.; refer to Table 5.2-2 and Figure 5.2-4.

Wildlife Corridor

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and, facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered to be sensitive by resource and conservation agencies.

Given that the study area is bounded by the Pacific Ocean on the west and development to the east and north, the majority of the study area does not function as a corridor that facilitates movement of wildlife from one location to another, particularly terrestrial species. To the south, however, Batiquitos Lagoon connects to the Pacific Ocean allowing for movement of aquatic species and for continual foraging habitat for those species dependent upon aquatic resources.

Sensitive Resources

Sensitive resources are those defined as (1) habitat areas or vegetation communities that are unique, of relatively limited distribution, or of particular value to wildlife; and (2) species that have been given special recognition by federal, state, or local government agencies and organizations due to limited, declining, or threatened populations.

Sensitive Vegetation Communities. The following vegetation communities within the study area are considered sensitive and/or are regulated by the USFWS, Corps, the CDFG, and/or the HMP: southern coastal salt marsh, southern willow scrub, mule fat scrub, coastal and valley freshwater marsh, marine, mudflats, disturbed wetland, southern coastal bluff scrub (including disturbed), beach/coastal dunes, Diegan coastal sage scrub (including disturbed), non-native grassland, eucalyptus woodland, and disturbed habitat; refer to Figure 5.2-2 and Table 5.2-1.

Listed or Sensitive Plant Species Observed. No federal or State listed threatened or endangered plant species were observed within the study area. Four plant species listed as sensitive by CNPS, however, were observed by RECON (2003a): Nuttall's lotus, southwestern spiny rush, California boxthorn, and woolly seablite (*Suaeda taxifolia*). Three of these species (southwestern spiny rush, California boxthorn, and woolly seablite) also were observed by HELIX during surveys in 2006; refer to Appendix C-3:

- Nuttall's lotus (*Lotus nuttallianus*), CNPS List 1B.1;
- Southwestern spiny rush (*Juncus acutus*), CNPS List 4.2;
- California box thorn (*Lycium californicum*), CNPS List 4.2; and,
- Woolly seablite (*Suaeda taxifolia*), CNPS List 4.2.

Listed or sensitive plant species that were not observed within the study area but have potential to occur are listed in Table 5.2-3.

Listed or Sensitive Animal Species Observed. A total of eight sensitive animal species were observed within the study area or flying overhead by HELIX in 2006; refer to Appendix C-3.

- California least tern (*Sterna antillarum browni*), federal-listed endangered, state-listed endangered, California Fully Protected (CFP), and Carlsbad HMP-covered species;
- California brown pelican (*Pelecanus occidentalis californicus*), a federal-listed endangered, state-listed endangered, CFP, and Carlsbad HMP-covered species;
- American peregrine falcon (*Falco peregrinus*), a state-listed endangered, CFP, and Carlsbad HMP-covered species;
- Double-crested cormorant (*Phalacrocorax auritus*; rookery), a California Species of Special Concern (CSC) species;
- California horned lark (*Eremophila alpestris*), a CSC species;
- Coastal California gnatcatcher, a federal-listed threatened, CSC, and Carlsbad HMP-covered species;
- Loggerhead shrike (*Lanius ludovicianus;* nesting), a USFWS Bird of Conservation Concern and CSC species; and,
- Cooper's hawk (*Accipiter cooperii*; nesting), a CSC and Carlsbad HMP-covered species.

Additionally, listed or sensitive animal species that were not observed within the study area but have potential to occur are listed in Table 5.2-4.

5.2.2 Thresholds for Determining Significance

The following thresholds of significance are based on Appendix G of the CEQA Guidelines. For purposes of evaluating impacts in this EIR, the proposed project would result in a significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool

coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors; or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state conservation plan.

5.2.3 Environmental Impact

Direct Impacts

Sensitive Vegetation Communities

Impact B-1 Implementation of the Vision Plan would result in direct impacts to 47.6 acres including: 0.04 acre of southern willow scrub, 0.1 acre of disturbed southern coastal bluff scrub, 1.2 acres of Diegan coastal sage scrub (including disturbed), 0.3 acre of eucalyptus woodland, 21.1 acres of disturbed habitat, 9.7 acres of non-native vegetation, and 15.2 acres of developed land; refer to Figure 5.2-5 and Table 5.2-5. According to the City's HMP, impacts to southern willow scrub, disturbed southern coastal bluff scrub, Diegan coastal sage scrub (including disturbed), eucalyptus woodland, and disturbed habitat would be significant and mitigation would be required. Impacts to non-native vegetation and developed land are not considered significant and mitigation is not required.

Sensitive Plant Species

Development of the Ponto Area would impact California boxthorn and woolly seablite; refer to Figure 5.2-5. These species are not listed by federal or State agencies as rare, endangered, threatened, or as being a CSC. Both plant species are designated as CNPS List 4.2, which is defined as a "watch list for species of limited distribution that are fairly endangered in California (20 to 80 percent occurrences threatened)." Given that (1) few individuals of these species would be affected upon implementation of the proposed project, (2) these species occur in various locations within the study area that would not be affected by development of the site, and (3) the low sensitivity listing of the species, impacts to California boxthorn and woolly seablite would be adverse, but less than significant.

Sensitive Animal Species

Development of the Ponto Area would potentially impact California horned lark and loggerhead shrike; refer to Figure 5.2-5. Given that California horned lark and loggerhead shrike (1) are able to disperse through the site to other areas with appropriate habitat, and (2) adequate areas of habitat occur in the project vicinity, impacts to these avian species would be adverse, but less than significant. Direct impacts to the remaining six sensitive animal species (all avian species) are not anticipated.

In particular, no direct impacts to coastal California gnatcatcher are anticipated because the individual observed within the study area was outside the Ponto Area, and the Diegan coastal

sage scrub closest to the observed location would not be directly affected by project development. In addition, this species likely traverses the southeastern portion of the study area in order to reach the preserved habitat within the finger canyon north of Batiquitos Lagoon and east of the railroad tracks. Although not impossible, it is unlikely that coastal California gnatcatchers use the small patches of Diegan coastal sage scrub within the Carlsbad Boulevard median or north of Avenida Encinas and west of Ponto Drive.

Jurisdictional Areas

Impact B-2 Development of the Ponto Area would significantly impact 0.15 acre of Corps jurisdictional areas including 0.04 acre of southern willow scrub and 0.11 acre of non-wetland Waters of the U.S.; refer to Figure 5.2-6 and Table 5.2-6.

The proposed project would significantly impact 0.21 acre of CDFG jurisdictional areas including 0.04 acre of southern willow scrub and 0.17 acre of streambed; refer to Figure 5.2-7 and Table 5.2-6.

Wildlife Corridors

As previously stated, the majority of the study area does not function as a corridor that facilitates movement of wildlife from one location to another, particularly large mammals. Although a small portion of the study area occurs within FPA Core 8, no impacts to this core area would occur upon implementation of the proposed project.

Indirect Impacts

Water Quality

Water quality within Batiquitos Lagoon or the Pacific Ocean could be adversely affected by potential surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could potentially contaminate surface water. Decreased water quality can adversely affect vegetation, aquatic animals, and terrestrial wildlife that depend on the surface water.

During project construction, measures shall be implemented to control erosion, sedimentation, and pollution that could impact water resources on- and offsite. The applicant would be required to comply with the Clean Water Act Section 404 and 401 Permits, Section 4 of Chapter 7 of Volume 1 of the City's Engineering Standards (City 2004b), and Chapter 15.12, Storm Water Management and Discharge Control, of the City's Municipal Code (City 2006), which require erosion control measures. Prior to the commencement of grading, a Notice of Intent must be filed with the RWQCB for a National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit. Specific permit requirements include implementation of an approved Storm Water Pollution Prevention Plan (SWPPP), which requires best management practices for erosion and sediment control related to construction activities. Standard measures that may apply to the proposed project include:

- Surface drainage shall be designed to collect and move runoff into adequately sized natural stream channels or drainage structures.
- Erosion control measures associated with the project shall include techniques for both long- and short-term erosion hazards pursuant to direction by a hydrologic or engineering consultant. These are likely to include such measures as the short-term use of sandbags, matting, mulches, berms, hay bales, or similar devices along all

pertinent graded areas to minimize sediment transport. The exact design, location, and schedule of use for such devices shall be determined by a hydrologic or engineering consultant.

- Native vegetation shall be preserved whenever feasible, and all disturbed areas shall be reclaimed as soon as possible after completion of grading. Native topsoil shall be stockpiled and reapplied as part of the site revegetation whenever possible.
- Use of energy dissipating structures (e.g., detention ponds, riprap, or drop structures) as deemed necessary by a hydrologic or engineering consultant shall be used at storm drain outlets, drainage crossings, and/or downstream of all culverts, pipe outlets, and brow ditches to reduce velocity and prevent erosion.
- A maintenance plan for temporary erosion control facilities shall be established. This will typically involve inspection, cleaning, and repair operations being conducted after runoff-producing rainfall.
- Removal and disposal of ground water (if any) encountered during construction activities shall be coordinated with the RWQCB to ensure proper disposal methods and locations under a General Dewatering Permit. This may involve specific measures such as removing excess sediment (through the use of desilting basins, etc.) and limiting discharge velocity.
- Specified fueling and maintenance procedures shall be designated to preclude the discharge of hazardous materials used during construction (e.g., fuels, lubricants, and solvents). Such designations shall include specific measures to preclude spills including proper handling and disposal techniques.

Compliance with the above regulations and standards would be required; therefore, impacts to surface water quality would be less than significant.

Construction Noise

Impact B-3 Noise associated with development of the Ponto Area from such sources as grubbing, grading, and vehicular traffic would create a potentially significant impact on local wildlife. Noise-related impacts would be considered significant if sensitive species (such as coastal California gnatcatcher, least tern, or raptors) were displaced from their nests and failed to breed. Birds nesting within any area impacted by noise exceeding 60 dB L_{eq} may be significantly impacted. Any construction activity within 500 feet of an active coastal California gnatcatcher, California least tern, or raptor nest would be considered significant.

Fugitive Dust

Construction dust could potentially disperse onto native vegetation. Effects on vegetation due to airborne dust could occur adjacent to construction. A continual cover of dust could reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., seed-eating rodents). Dust also could make plants unsuitable as habitat for insects and birds. Dispersal during project construction would be substantially controlled by standard measures such as multiple applications of water during grading between dozer/scraper passes. Because active construction areas and unpaved surfaces would be

watered to minimize dust generation, potential impacts on biological resources from fugitive dust would be less than significant.

Non-Native Plant Species

Non-native plant species introduced by disturbance during project grading and project landscaping could potentially colonize disturbed areas and spread into adjacent native habitats. Many non-native plants are highly invasive and can displace native vegetation, reducing native species diversity. An abundance of non-native species could potentially increase flammability and fire frequency, change ground and surface water levels, or adversely affect native wildlife that are dependent on the native plant species. It should be noted that non-native plant colonization is already a significant issue within the study area.

Landscape plans prepared for future individual development projects within the Ponto Area shall not include any species included in the California Invasive Plant Inventory prepared by the California Invasive Plant Council (Cal-IPC 2006) or in Table 12 of the City's HMP. In addition, the landscape plans would be submitted to the City for approval prior to issuance of any clearing or grading permit. Therefore, significant impacts as a result of colonization of non-native plant species are not considered to be significant.

Habitat Fragmentation/Edge Effects

Removal of existing native habitats within the study area could result in some habitat fragmentation and an increase in associated edge effects. Fragmentation is the breaking up of larger, contiguous parcels of habitat into smaller, discontiguous patches. Potential edge effects from such fragmentation could include the invasion of non-native plant species in what was unfragmented, native habitat and access by predators (native and non-native) to prey that would otherwise be protected in an unfragmented parcel of habitat. In addition, secondary extinctions through disruption of predator-prey, parasite-host, and plant-pollinator relations can occur (Soulé, ed. 1986). Edge effects can be particularly significant; for example, nest parasites such as the brown-headed cowbird (*Molothrus ater*) could expand their population and could be allowed easier access to bird nests. Given that the 130.4-acre study area consists of 40.9 acres of native habitat (31.4 percent of the study area) in small patches scattered throughout the study area, habitat fragmentation/edge effects are already established. Therefore, implementation of the proposed project resulting from habitat fragmentation/edge effects would not be significant.

Domesticated Pets

Impact B-4 Future development of the Ponto Area has the potential to result in impacts to native wildlife from the increased presence of nuisance species and domesticated animals. Domestic animals (e.g., cats and dogs) could significantly impact native wildlife in the immediate area. Cats, especially, are known to hunt rodents and birds. In addition, commercial and residential uses may introduce Argentine ants (*Linepithema humile*) to local habitats, which could have significant consequences for native ant species and animals that feed on them. The introduction of nuisance or domesticated animal species into open space could be potentially significant.

Human Activity

Generally, increased human activity in an undeveloped area could result in degradation of sensitive vegetation by fragmenting habitat and forming additional edges through the

creation of unauthorized roads or trails and by removing existing vegetation. In addition, illegal dumping of lawn and garden clippings, trash, or other refuse could occur. Given that the majority of the study area is developed or consists of beach or non-native vegetation communities, additional impacts to sensitive areas would not increase, and may in fact, be reduced. Permanent fencing would be provided along the top of slope overlooking Batiquitos Lagoon. No new or modified trails beyond existing pedestrian trails are proposed around the lagoon. In addition, preserved habitat would be posted with signs to preclude access and prohibit dumping. Residents and guests would be educated in access restrictions, sensitivity of habitats, and prevention of collecting species within the area through existing interpretive kiosks located at the lagoon. Therefore, impacts from human activity would not be significant.

Animal Behavioral Changes

Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could reduce reproductive success and increase mortality. Coastal California gnatcatchers, California least terns, and raptors were observed within the study area. The Least Tern Preserve is located immediately south of the study area within Batiquitos Lagoon. These three species are susceptible to disturbance from construction; however, little suitable habitat for these species occurs within the Ponto Area. Impacts to habitats of sensitive animal species would be fully mitigated pursuant to the City's HMP. In addition, construction activity would be temporary and would be required to meet the City's existing Construction Noise Standards. Based on these conditions, impacts on animals in the form of behavioral changes are not considered significant.

Roadkill

Roadkill could occur as vehicles travel on the internal roads associated with the Ponto Area. As previously stated, the study area is bounded by the Pacific Ocean on the west and development to the east and northeast. The majority of the study area does not function as a corridor. In addition, only three mammal species were observed during surveys. In the southern portion of the Ponto Area, Batiquitos Lagoon connects to the Pacific Ocean allowing for movement of aquatic species and for continual foraging habitat for those species dependent upon aquatic resources. Therefore, roadkill impacts (primarily impacts to mammals) are anticipated to be adverse but not significant.

Night Lighting

Impact B-5 Night lighting on native habitats can provide nocturnal predators with an unnatural advantage over their prey. This could increase loss of native wildlife that could be potentially significant, especially for any sensitive species that could occur within the study area.

Errant Construction Impacts

Impact B-6 Construction activities associated with development of the Ponto Area, as well as offsite improvements, would have the potential to result in errant impacts outside the construction limits. Any grubbing, clearing, grading, or other impacts that inadvertently occur outside the limits of construction in areas where sensitive habitat occurs would be considered significant.

5.2.4 Mitigation Measures

The following mitigation measures are proposed to mitigate potential impacts on biological resources resulting from development of the Ponto Area.

Sensitive Vegetation Communities

Mitigation measures and ratios used below are based on the City's HMP. The proposed mitigation measures are based on the impacts of the project; refer to Tables 5.2-7 to 5.2-9. Given the nature of the study area (including approximately 1,600 linear feet of Carlsbad Boulevard, as well as a portion of South Carlsbad State Beach) mitigation would likely occur offsite within the preserve system of the City's HMP, rather than within the study area. Individual property owners would be responsible for mitigating impacts to biological resources specific to their development proposals.

B-1a Impacts to 0.04 acre of southern willow scrub shall be mitigated at a 3:1 ratio through on- or off-site creation and enhancement of 0.12 acre of southern willow scrub. A Restoration Plan for habitat creation and enhancement shall be submitted to the USFWS, CDFG, and City for approval prior to issuance of any grading or construction permits and prior to approval of final map.

B-1b Impacts to 0.1 acre of southern coastal bluff scrub (including disturbed) shall be mitigated at a 3:1 ratio through off-site acquisition of 0.3 acre of southern coastal bluff scrub or other Group B habitat, as defined in the City's HMP, within the City's proposed preserve system.

B-1c Impacts to 1.2 acres of unoccupied Diegan coastal sage scrub (including disturbed) shall be mitigated at a 2:1 ratio through the off-site acquisition of 2.4 acres within the City's proposed preserve system.

B-1d Impacts to 0.3 acre of eucalyptus woodland shall be mitigated with payment of a fee into the City's Habitat In Lieu Mitigation Fee fund, consistent with the City's fee schedule at the time of permit issuance.

B-1e Impacts to 21.1 acres of disturbed habitat shall be mitigated with payment of a fee into the City's Habitat In Lieu Mitigation Fee fund, consistent with the City's fee schedule at the time of permit issuance.

Sensitive Plant Species

No significant impacts were identified. Therefore, no mitigation is required.

Sensitive Animal Species

No significant impacts were identified. Therefore, no mitigation is required.

Jurisdictional Areas

B-2a Impacts to 0.04 acre of Corps jurisdictional wetlands and 0.11 acre of non-wetland Waters of the U.S. shall be mitigated by the creation and/or enhancement of 0.23 acre of jurisdictional areas on- or off-site at 3:1 and 1:1 ratio, respectively, as determined by the resource agencies.

B-2b Impacts to 0.04 acre of CDFG jurisdictional wetlands and 0.17 acre of CDFG jurisdictional streambed shall be mitigated by the creation and/or enhancement of

0.29 acre of jurisdictional areas on- or off-site at 3:1 and 1:1 ratio, respectively, as determined by the resource agencies.

Wildlife Corridors

No significant impacts were identified. Therefore, no mitigation is required.

Surface Water Quality

No significant impacts were identified. Therefore, no mitigation is required.

Construction Noise

B-3 No grubbing, grading, or clearing within 500 feet of occupied Diegan coastal sage scrub during the coastal California gnatcatcher breeding season (March 1 through August 15), California least tern breeding season (April through August) or raptor habitat during the raptor breeding season (December through July) shall occur. As such, all grading permits, improvement plans, and the final map shall state the same. If grubbing, grading, or clearing would occur during the gnatcatcher, least tern, and/or raptor breeding season, a pre-construction survey shall be conducted to determine if these species occur within the areas impacted by noise (either within 500 feet or where noise is greater than 60 dB L_{eq}). If there are no gnatcatchers, least tern, or raptors nesting (includes nest building or other breeding/nesting behavior) within this designated area, development shall be allowed to proceed. However, if any of these birds are observed nesting or displaying breeding/nesting behavior within the area, construction shall (1) be postponed until all nesting (or breeding/nesting behavior) has ceased or until after August 15; or (2) a temporary noise barrier or berm shall be constructed at the edge of the development footprint to ensure that noise levels are reduced to below 60 dB L_{eq}. Alternatively, the use of construction equipment could be scheduled to keep noise levels below 60 dB L_{eq} in lieu of or in concert with a wall or other noise barrier.

In order to ensure compliance with the MBTA, clearing of all vegetation shall occur outside of the breeding season of most avian species (February 15 through September 15). Grubbing, grading, or clearing during the breeding season of MBTA-covered species could occur if it is determined via a pre-construction survey that no nesting birds (or birds displaying breeding or nesting behavior) are present immediately prior to grubbing, grading, or clearing and would require approval of the City, USFWS, and CDFG that no breeding or nesting avian species are present in the vicinity of the grubbing, grading, or clearing.

Fugitive Dust

No significant impacts were identified. Therefore, no mitigation is required.

Non-Native Plant Species

No significant impacts were identified. Therefore, no mitigation is required.

Habitat Fragmentation/Edge Effects

No significant impacts were identified. Therefore, no mitigation is required.

Domesticated Pets

B-4 Exotic animal control shall focus on both nuisance species and domestic pets. The property manager or Homeowner's Association (HOA) shall be conditioned to include measures in the Covenants, Codes and Restrictions (CC&R's) to promote tenant/resident education regarding the potential impacts of pets on wildlife through signage and newsletters. Persistent problems related to uncontrolled pets shall be reported to the San Diego County Animal Control.

Human Activity

No significant impacts were identified. Therefore, no mitigation is required.

Animal Behavioral Changes

No significant impacts were identified. Therefore, no mitigation is required.

Roadkill

No significant impacts were identified. Therefore, no mitigation is required.

Night Lighting

B-5 Lighting within the proposed project development adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat.

Errant Construction

B-6 During the construction period, limits of grading and clearing shall be clearly delineated with temporary fencing such as orange construction fencing to ensure that construction activity remains within the defined limits of disturbance according to the grading plan. A qualified biologist shall inspect the fencing and shall monitor construction activities occurring adjacent to the construction limits to avoid unauthorized impacts. Unauthorized impacts shall be reported to the USFWS, CDFG, and City within 24 hours of occurrence.

5.2.5 Impact After Mitigation

Implementation of Mitigation Measure B-1 would reduce potential impacts to sensitive vegetation communities by requiring compensatory mitigation to be established before the impact takes place. Impacts to wetland habitats require a 3:1 mitigation ratio for loss of habitat. Mitigation Measure B-1a requires that mitigation include habitat creation to ensure there is no net loss of habitat. The City of Carlsbad and the Wildlife Agencies are required to approve the restoration plan to ensure the location, implementation, and monitoring would provide the greatest chances for success. Implementation of Mitigation Measure B-1a reduce would potential impacts to wetland habitats to less than significant.

Mitigation Measures B-1b and B-1c require mitigation for the loss of coastal bluff scrub and Diegan coastal sage scrub to be implemented through the acquisition of 0.3-acre of coastal bluff scrub and 2.4 acres of Diegan coastal sage scrub in the preserve system of the City's HMP. This requirement ensures that a greater value of habitat will be preserved than what is impacted. Implementation of this mitigation measure ensures that the appropriate amount of habitat type is protected in a larger block of habitat. The contribution to the City's preserve

system would help to create large blocks of habitat that will enhance the long-term viability of the vegetation community. Potential impacts to sensitive upland vegetation communities would be reduced to less than significant.

Implementation of the proposed project would result in significant impacts to three sensitive vegetation communities (southern willow scrub, southern coastal bluff scrub [including disturbed], and Diegan coastal sage scrub [including disturbed]). In addition, implementation of the proposed project would impact two vegetation communities (eucalyptus woodland and disturbed habitat) that are not sensitive but require mitigation pursuant to the City's HMP. Implementation of the proposed project would not directly impact sensitive plant or animal species. Development of the Ponto Area would significantly impact Corps and CDFG jurisdictional areas. Indirect impacts such as construction noise, domesticated pets, night lighting, and errant construction could potentially cause significant impacts to sensitive biological resources, but would be reduced to less than significant with mitigation.

With implementation of the proposed mitigation measures for significant impacts to sensitive biological resources, pursuant to Corps, CDFG and City regulations and requirements, all proposed project-specific impacts would be mitigated to less than significant.

Mitigation measures for loss of habitat include acquisition and payment into the City's Habitat In Lieu Mitigation Fee fund, at ratios consistent with those required by the City and applicable resource agencies. Significant impacts to jurisdictional areas would be mitigated by on- or off-site creation at a minimum 1:1 ratio and enhancement at a 2:1 ratio of wetland habitats. Restriction of construction activities during the breeding season would reduce significant indirect impacts to sensitive species such as coastal California gnatcatcher, raptors, and California least tern to less than significant.

Implementation of Mitigation Measure B-2 reduces potential impacts to ACOE and CDFG wetland impacts. The wetland mitigation will reduce potential impacts to less than significant because it will preserve wetland habitat at an equal or greater ratio than what was impacted. The mitigation for wetland impacts is a combination of preservation, wetland creation, and enhancement of existing wetlands. This requirement ensures that an equal to or greater value of natural resources are preserved to compensate for the loss of sensitive habitat types. The creation and enhancement component of the mitigation ensures that the project will meet Federal, State, and County policies regarding "no net loss" of the wetland habitats. The wetland mitigation area will be granted with a protective easement that will designate the area for permanent protection of wetland resources. Therefore, potential impacts would be reduced to less than significant.

Implementation of Mitigation Measure B-3 will reduce the potential impacts associated with Impact B-3, which is the disturbance of sensitive bird species during the breeding season as a result of construction activity. These mitigation measures will reduce potential impacts to California gnatcatcher by requiring that, prior to construction, a qualified biologist determines that no nesting birds have been identified within 500 feet of construction activities during the period of February 15 to August 31. Implementation of this mitigation measure ensures that construction activity would not disrupt the nesting activities of nesting birds. Therefore, potential impacts to sensitive bird species as a result of construction noise would be reduced to less than significant.

Mitigation Measures B-4 through B-6 reduce potential impacts from nuisance animal species, night lighting, and errant construction that would create indirect impacts as result of edge effects. Implementation of these mitigation measures would reduce potential edge effects by placing controls and restrictions on human activities that would contribute to potential edge effects. Mitigation Measure B-4 designates that a specific entity will be responsible for each development area for controlling access of domestic pets to open space areas. Mitigation Measure B-5 ensures that light spillover into open space is minimized by requiring lights to be shielded and pointed away from the open space areas. Mitigation Measure B-6 reduces potential impacts to less than significant by ensuring that fencing is installed prior to grading activities to avoid unintended impacts to preserve areas. This mitigation measure would require that a monitor inspect the fences to ensure they are visible and in place. Therefore, potential impacts as a result of human activities would be reduced to less than significant.

Table 5.2-1
Existing Vegetation Communities

Vegetation Community	Acreage[1]
Habitat Group A[2]	
Southern coastal salt marsh	0.98
Riparian woodland	0.17
Southern willow scrub	0.91
Mule fat scrub	0.19
Coastal and valley freshwater marsh	2.21
Marine	1.30
Mudflats	0.03
Disturbed wetland	0.11
Habitat Group B	
Southern coastal bluff scrub (including disturbed)	4.3
Beach/Coastal dunes	25.4
Habitat Group C	
Diegan coastal sage scrub (including disturbed)	5.2
Habitat Group E	
Non-native grassland	0.2
Habitat Group F	
Eucalyptus woodland	0.3
Disturbed habitat	24.6
Other	
Non-native vegetation	21.0
Developed	43.4
Total	**130.4**

[1]Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

[2]Habitat Groups refer to MHCP habitat classification system.

Table 5.2-2
Existing Jurisdictional Areas Within the Study Area

VEGETATION COMMUNITY/HABITAT	CORPS	CDFG
WETLANDS		
Southern Coastal Salt Marsh	0.98	0.98
Riparian Woodland	0.17	0.17
Southern Willow Scrub	0.91	0.91
Mule Fat Scrub	0.19	0.19
Coastal and Valley Freshwater Marsh	2.21	2.21
Mudflats	0.03	0.03
Disturbed Wetland	0.11	0.11
Subtotal	**4.60**	**4.60**
NON-WETLANDS		
Marine	1.30	1.30
Drainage/Streambed	0.11	0.18
Subtotal	1.41	1.48
Total	**6.01**	**6.08**

Table 5.2-3
Sensitive Plant Species with Potential To Occur Within the Study Area

SPECIES	STATUS*	POTENTIAL TO OCCUR
Red sand-verbena *Abronia maritime*	--/-- CNPS List 4.2	Low. Grows below 300 feet on beach dunes. Blooms Feb. through Nov. Although suitable habitat occurs onsite, this species was not observed during the July 2006 rare plant survey.
California adolphia *Adolphia californica*	--/-- CNPS List 2.1	Low. Occurs in coastal sage scrub and chaparral along slopes near creeks and drainages. Project site supports only marginally suitable habitat. Would likely have been detected if present.
Shaw's agave *Agave shawii*	--/-- CNPS List 2.1	None. Occurs below 250 feet in coastal bluff scrub, coastal sage scrub, maritime succulent scrub. Blooms Sept. through May. Study area is outside the native range, which is generally restricted to the southern portion of the county.
San Diego ambrosia *Ambrosia pumila*	FE/-- CNPS List 1B.1	Very low. Found along creek beds and drainages, generally along periphery of riparian woodland (Reiser 2001). Nearest extant sighting is n Lake Hodges, approximately 9.4 miles to the east. Study area does support suitable habitat.
Aphanisma *Aphanisma blitoides*	--/-- CNPS List 1B.2	Low. Occurs at elevations below 1,000 feet in coastal bluff scrub and coastal sage scrub with sandy soils. Blooms March through June. Reiser (2001) suggests that this species may be extirpated from the county.
Del Mar manzanita *Arctostaphylos glandulosa* ssp. *crassifolia*	FE/-- CNPS List 1B.1	Very low. Generally occurs in open coastal chaparral on eroded sandstone soils (Reiser 2001). Blooms December through April. Reported just north of Batiquitos Lagoon, approximately 1 mile east of the study area. This is a conspicuous shrub that would likely have been detected if present.
Coastal dunes milk-vetch *Astragalus tener* var. *titi*	FE/SE CNPS List 1B.1 CA Endemic	Very low. Occurs at elevations below 1,000 feet in coastal dunes, coastal bluff scrub, and mesic coastal prairie with sandy soils. Blooms March through May. Not observed during 2006 rare plant surveys, survey was conducted outside the blooming period. San Diego populations have not been relocated since 1970's.
Coulter's saltbush *Atriplex coulteri*	--/-- CNPS List 1B.2	Low. Occurs at elevations below 1,050 feet in coastal bluff scrub, coastal dunes, coastal sage scrub, and grasslands, with alkaline or clay soil. Blooms Mar. through Oct. Not observed during 2006 rare plant surveys. No suitable soils within the study area.
South coast salt-scale *Atriplex pacifica*	--/-- CNPS List 1B.2	Low. Occurs in coastal bluff scrub, coastal dunes, and coastal sage scrub below 500 feet. Blooms Mar. through Oct. Not observed during 2006 rare plant survey. Nearest reported observations are in Oceanside (CDFG 2006a).
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	--/-- CNPS List 1B.2	Low. Found below 1,000 feet in coastal bluff scrub and coastal sage scrub on alkaline soils. Blooms April through Oct. Nearest reported observation is in Oceanside, approximately 9 miles to the north (CDFG 2006a).
Encinitas baccharis *Baccharis vanessae*	FT/SE CNPS List 1B.1 CA Endemic Carlsbad HMP Narrow Endemic	Very low. Occurs in maritime and mixed chaparral on sandstone soils below 2,500 feet. Blooms Aug. through Nov. Difficult to identify when not in flower. Known from fewer than 20 occurrences. No suitable habitat mapped within the study area.

Table 5.2-3 continued

SPECIES	STATUS*	POTENTIAL TO OCCUR
Thread-leaved brodiaea *Brodiaea filifolia*	FT/SE CNPS List 1B.1	Very low. Generally grows in moist grasslands and on the periphery of vernal pools. Blooms March to June. Reported north of Batiquitos Lagoon in the vicinity of El Camino Real, approximately 3 miles to the east. Suitable habitat does not occur within the study area.
Orcutt's brodiaea *Brodiaea orcuttii*	--/-- CNPS List 1B.1	Very low. Generally grows on gravelly loam soils in grasslands with mima mound topography and on the periphery of vernal pools (Reiser 2001). Blooms March to June. Nearest reported sightings are in the Olivenhain/Rancho Santa Fe area, at least 4 miles to the east. Suitable habitat does not occur within the study area.
Seaside calandrinia *Calandrinia maritima*	--/-- CNPS List 4.2	Low. Found in coastal bluff scrub, coastal sage scrub, and grassland below 5,000 feet. Blooms Feb. through Aug. Reiser (2001) reports a population north of the terminus of Swallowtail Road, Encinitas, approximately 1.5 miles east-southeast of the project site. Would likely have been detected within the study area if present.
Lewis's evening-primrose *Camissonia lewisii*	--/-- CNPS List 3	Low to moderate. Found on sandy or clay soils below 1,000 feet in coastal bluff scrub, cismontane woodland, coastal dunes, coastal sage scrub, and grasslands. Blooms March through July. Reiser (2001) reports a population on sandstone west of the Palomar Airport runway, approximately 1.5 miles northeast of the project site. Not observed during 2006 rare plant survey.
Wart-stemmed ceanothus *Ceanothus verrucosus*	--/-- CNPS List 2.2	Very low. Typically found in southern maritime chaparral, which does not occur within the study area. A large population is reported on the hills approximately 1 mile east of the study area north of Batiquitos Lagoon. Would likely have been detected if present.
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	--/-- CNPS List 1B.1	Low. Occurs below 350 feet in coastal bluff scrub, sandy, and coastal dunes. Blooms Jan. through Aug. Not observed during survey. Not observed during 2006 rare plant surveys although suitable habitat occurs within the study area.
Orcutt's spineflower *Chorizanthe orcuttiana*	FE/SE CNPS List 1B.1	Low. Found in coastal chamise chaparral openings with loose sandy substrate (Reiser 2001). Nearest presumed extant population is near Encinitas Boulevard approximately 4.5 miles to the southeast (CDFG 2006a). No chaparral mapped the within area; habitat is only marginally suitable.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	--/-- CNPS List 1B.2	None. Typically found on clay lenses and on the periphery of vernal pools. Appropriate habitat does not occur within the study area.
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	--/-- CNPS List 1B.2	Very low. Found on mesic north-facing slopes in southern mixed chaparral. Suitable habitat does not occur within the study area. Would have been observed during surveys if present.
Salt marsh bird's-beak *Cordylanthus maritimus* ssp. *maritimus*	FE/SE CNPS List 1B.2	Very low. Found below 100 feet in coastal dunes, coastal salt marshes and swamps. Blooms May through Oct. Not observed during 2006 rare plant survey. Both known populations occur in the southern portion of the county (Reiser 2001).

Table 5.2-3 continued

SPECIES	STATUS*	POTENTIAL TO OCCUR
Sea dahlia *Coreopsis maritima*	--/-- CNPS List 2.2	Low to moderate. Occurs below 500 feet in coastal bluff scrub and coastal sage scrub. Blooms March through May. Reported just south of Batiquitos Lagoon, approximately 0.9 miles to the southeast (CDFG 2006a). Not observed during 2006 rare plant survey.
San Diego sand-aster *Corethrogyne filaginifolia* var. *incana*	--/-- CNPS List 1B.1	Low to moderate. Occurs in coastal bluff scrub and coastal chaparral. Blooms from July to Sept. Nearest reported population is on the hills south of Batiquitos Lagoon, west of Saxony Road, approximately 1 mile to the southeast (CDFG 2006a).
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	--/-- CNPS List 1B.1 Carlsbad HMP Narrow Endemic	Low. Occurs on clay/serpentine soils below 1,500 feet in coastal sage scrub, coastal bluff scrub, chaparral, and grasslands. Blooms April through June. Known from fewer than 20 occurrences in California and fewer than 5 in Baja California. Although it was not observed during 2006 rare plant survey, the CNDDB reports a population just north of Palomar Airport, approximately 2.4 miles to the northeast (CDFG 2006a).
San Diego button-celery *Eryngium aristulatum* var. *parishii*	FE/SE CNPS List 1B.1	Very low. Found in vernal pool communities and vernally moist areas with mima mount topography. Reported in vernal pools just east of the railroad tracks approximately 0.4 mile north of the project site (CDFG 2006a). No vernal pools occur within the study area.
Cliff spurge *Euphorbia misera*	--/-- CNPS List 2.2 Carlsbad HMP Covered	Low to moderate. Occurs below 2,000 feet in coastal sage scrub, maritime succulent scrub, and coastal bluff scrub. Blooms Dec. through Aug. Not observed during 2006 rare plant survey. Nearest reported sighting is north of Agua Hedionda Lagoon, approximately 3.4 miles to the north (CDFG 2006a).
San Diego barrel cactus *Ferocactus viridescens*	--/-- CNPS List 2.1 Carlsbad HMP Covered	Very low. Occurs below 1,500 feet in chaparral, coastal sage scrub, grassland, and in the vicinity of vernal pools. Blooms May through June. Would have been observed if present.
Palmer's frankenia *Frankenia palmeri*	--/-- CNPS List 2.1	None. Typically found along the periphery of coastal salt marsh; blooms May through July; elevation below 30 feet. The only confirmed population in the U.S. is in Chula Vista (Reiser 2001).
Orcutt's hazardia *Hazardia orcuttii*	FC/ST CNPS List 1B.1	Very low. Occurs in open chaparral, especially chamise chaparral. Blooms from August to October. Recorded on east of Lux Canyon, approximately 5 miles to the southeast. Habitat within the study area is unsuitable to support this species.
San Diego marsh-elder *Iva hayesiana*	--/-- CNPS List 2.2	Very low. Occurs in riparian habitat along creeks and intermittent streambeds, usually with alluvial soils. Reported in the Batiquitos Lagoon Ecological Reserve to the south and southeast of the study area. Would likely have been detected if present.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	--/-- CNPS List 1B.1	Low to moderate. Found below 4,000 feet in coastal salt marshes and vernal pools (Reiser 2001). Blooms Feb. through June; elevation less than 4,000 feet. Although not observed during 2006 rare plant survey, the CNDDB reports a population in Batiquitos Lagoon to the south (CDFG 2006a).

Table 5.2-3 continued

SPECIES	STATUS*	POTENTIAL TO OCCUR
Del Mar Mesa sand aster *Lessingia filaginifolia* var. *linifolia*	--/-- CNPS List 1B.1 CA Endemic Carlsbad HMP Narrow Endemic	Low. Occurs on sandy soils below 500 feet in coastal bluff scrub, as well as openings in southern maritime chaparral and coastal sage scrub. Blooms May through Sept. Not observed during 2006 rare plant survey and not reported to the CNDDB in the project vicinity (CDFG 2006a).
Dunedelion *Malacothrix incana*	--/-- CNPS List 4.3 CA Endemic	None. Typically found below 100 feet in elevation in coastal dunes and coastal sage scrub. Blooms April through Aug. Species believed to be extirpated from San Diego County.
Little mousetail *Myosurus minimus* ssp. *apus*	--/-- CNPS List 3.1	Very low. Occurs in vernal pool communities. Reported in pools approximately 0.4 mile north of the project site (CDFG 2006a). No vernal pools occur within the study area.
Spreading navarretia *Navarretia fossalis*	FT/-- CNPS List 1B.1	Very low. Occurs in vernal pool communities, which do not occur onsite. Reported in pools approximately 0.4 miles north of the study area.
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	--/-- CNPS List 1B.2	Low. Occurs below 300 feet in coastal dune communities, particularly in the more protected back dunes (Reiser 2001). Blooms April through Sept. Habitat within the study area is only marginally suitable.
Slender woolly-heads *Nemacaulis denudata* var. *gracilis*	--/-- CNPS List 2.2	None. Occurs between 170 and 1,300 feet on well-developed sand dunes, both along the coast and in the deserts. Study area below the elevation range of this species. Blooms March through May. No suitable habitat occurs within the study area.
California Orcutt grass (*Orcuttia californica*)	FE/SE CNPS List 1B.1	Very low. Occurs in vernal pool communities, which do not occur onsite. Reported in pools approximately 0.4 miles north of the study area.
Short-lobed broomrape *Orobanche parishii* ssp. *brachyloba*	--/-- CNPS List 4.2	Low. Occurs on sandy soils below 1,000 feet in coastal bluff scrub and coastal dunes. Blooms April through October. Nearest reported population believed extirpated by residential development in Lux Canyon (Reiser 2001).
Brand's phacelia *Phacelia stellaris*	FC/-- CNPS List 1B.1	Low. Found below 1,300 feet in coastal scrub and coastal dunes. Blooms March through June. All San Diego County records for this species are in south county. Not observed during 2006 rare plant survey.
Nuttall's scrub oak *Quercus dumosa*	--/-- CNPS List 1B.1	Very low. Generally found in coastal chaparral, especially on mesic north-facing slopes (Reiser 2001). Blooms in February and March. Reported on hills north of Batiquitos Lagoon, approximately 2 miles east of the study area. Would likely have been detected if present.
Estuary suaeda *Suaeda esteroa*	--/-- CNPS List 1B.2	Low to moderate. Occurs near sea level in coastal salt marshes and swamps. Blooms May through Oct. Reported in 1986 in the San Marcos Creek estuary upstream from Batiquitos Lagoon (CDFG 2006a). Not observed during 2006 rare plant survey.
Triquetrella *Triquetrella californica*	--/-- CNPS List 1B.2	Very low. Occurs below 350 feet in coastal bluff scrub and coastal sage scrub. Known in California from fewer than 10 small coastal occurrences, only one of which is in San Diego.

Table 5.2-4
Sensitive Animal Species with Potential To Occur Within the Study Area

SPECIES	STATUS*	POTENTIAL TO OCCUR
Invertebrates		
Saltmarsh skipper *Panoquina errans*	--/-- Carlsbad HMP Covered	Salt marshes. Host plant *Distichlis spicata.* Adult emergence July through September. Suitable habitat and host plant present; known to occur in Batiquitos Lagoon; high potential to occur within study area.
Vertebrates		
Reptiles and Amphibians		
Belding's orange-throated whiptail *Cnemidophorus hyperythrus beldingi*	--/CSC Carlsbad HMP Covered	Moderate. Chaparral, coastal sage scrub with coarse sandy soils and scattered brush. Suitable habitat present.
Southwestern pond turtle *Clemmys marmorata pallida*	--/CSC	Low. Ponds, small lakes, marshes, slow-moving, sometimes brackish water. Marginal habitat present.
Birds		
American white pelican (nesting colony) *Pelecanus erythrorhynchos*	--/CSC	Lagoons, bays, estuaries, freshwater ponds; inland lakes during spring migration. Migrant and winter visitor. Winter foraging expected. Species observed flying overhead, however, no nesting colony occurs within the study area. Not expected to nest within study area.
Great blue heron (rookery site) *Ardea herodias*	--/--	Bays, lagoons, ponds, lakes. Non-breeding year-round visitor, some localized breeding. HELIX observed individuals within the study area, however, no rookeries present. Not expected to nest within study area.
Great egret (rookery site) *Ardea alba egretta*	--/--	Lagoons, bays, estuaries. Ponds and lakes in the coastal lowland. Winter visitor, uncommon in summer. No rookeries present; not expected to nest within study area.
Western least bittern *Ixobrychus exilis hesperis*	--/CSC	Brackish and freshwater marshes in the coastal lowland. Rare summer resident, very rare in winter. Marginal habitat present; low potential to occur.
Black-crowned night heron (rookery site) *Nycticorax nycticorax*	--/--	Lagoons, estuaries, bayshores, ponds, and lakes. Often roost in trees. Year-round visitor. Localized breeding. No rookeries within the study area; not expected to nest within study area.
White-faced ibis (rookery site) *Plegadis child*	--/CSC Carlsbad HMP Covered	Freshwater ponds, irrigated fields, brackish lagoons. Migrant and winter visitor, rare in summer. Very localized breeding. Major population known in Batiquitos Lagoon; though recent breeding not recorded. Not expected to nest within the study area; but suitable foraging habitat present.

Table 5.2-4 continued

SPECIES	STATUS*	POTENTIAL TO OCCUR
Osprey (nesting) *Pandion haliaetus*	--/CSC Carlsbad HMP Covered	Coast, lowland lakes, rarely foothills and mountain lakes. Uncommon fall/winter resident, rare in spring and summer. Fish are the primary prey item. Not expected to nest within the study area; but suitable foraging habitat present. HELIX observed this species sitting on an electrical pole within Batiquitos Lagoon.
Cooper's hawk (nesting) *Accipiter cooperii*	--/CSC Carlsbad HMP Covered	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas. Year-round resident. No suitable nesting habitat present; not expected to nest within the study area. Suitable foraging habitat present. HELIX observed this species flying overhead within the study area.
Light-footed clapper rail *Rallus longirostris levipes*	FE/ SE CFP Carlsbad HMP Covered	Salt marshes supporting *Spanina foliosa*. Localized resident. Known to occur in nearby coastal lagoons and Batiquitos Lagoon is identified as a critical habitat area. *Spartina foliosa* not observed during the survey and this species has a low potential to occur within the study area.
Western snowy plover (nesting; coastal population) *Charadrius alexandrinus nivosus*	FT and BCC/CSC Carlsbad HMP Covered	Sandy beaches, lagoon margins, tidal mud flats. Migrant and winter visitor. Localized breeding. Most numerous during fall migration. Known to occur in Batiquitos Lagoon; marginal habitat present within study area; low potential to occur.
Long-billed curlew (breeding) *Numenius americanus*	BCC/CSC	Tidal mud flats, salt marshes, bays. Fall and spring migrant, winter visitor, rare and localized in summer. Primarily a migratory species. Not expected to nest within study area.
Caspian tern (nesting colony) *Sterna caspia*	BCC/CSC	Bays, estuaries, lagoons; freshwater ponds and lakes in coastal lowlands. Resident. Localized breeding at the south end of San Diego Bay. Marginal habitat present within study area; not expected to nest. Potential to nest in adjacent areas.
Elegant tern (nesting colony) *Sterna elegans*	BCC/CSC Carlsbad HMP Covered	Mud flats, sandbars, dunes, bays, lagoons. Summer resident at the nesting colony at the south end of San Diego Bay. Otherwise, common migrant and abundant during late summer. Marginal habitat present within study area; but no nesting colony known from Batiquitos Lagoon. Not expected to nest within the study area.
Forster's tern (nesting colony) *Sterna forsteri*	--/--	Bays, estuaries, lagoons, shoreline. Abundant resident with breeding colony at the south end of San Diego Bay. Marginal habitat present within study area; not expected to nest. Potential to nest in adjacent areas.
California least tern (nesting colony) *Sterna antillarum browtti*	FE/SE Fully protected Carlsbad HMP Covered	Bays, estuaries, lagoons, shoreline. Nest colonially along the coast. Migrant and very localized summer resident. Marginal habitat present within study area; not expected to nest. Known to nest in adjacent areas.

Table 5.2-4 continued

SPECIES	STATUS*	POTENTIAL TO OCCUR
Burrowing owl (burrow sites) *Athene cunicularia*	BCC/CSC Carlsbad HMP Covered	Grassland, agricultural land, coastal dunes. Require rodent burrows. Declining resident. Moderately suitable habitat present within study area; low to moderate potential to occur. Known from north side of Batiquitos Lagoon.
Vaux's swift *Chaetura vauxi*	--/CSC	All habitat types of San Diego County during migration. Expected to fly over study area during spring and fall migration.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	--/SE Carlsbad HMP Covered	Salt marshes, lagoons dominated by pickleweed *(Salicornia virginica).* Common but localized resident. Large population known from Batiquitos Lagoon. Moderate to high potential for species to be present within the salt marshes in the study area.
Large-billed savannah sparrow *Passerculus sandwichensis rostratus*	--/CSC Carlsbad HMP Covered	Not observed; Batiquitos Lagoon salt marsh habitat has been identified as critical for this species; study area supports only a small amount of potential habitat; low to moderate potential for species to occur within study area.
Tricolored blackbird *Agelaius tricolor*	BCC/CSC	Freshwater marshes, agricultural areas, lakeshores, parks. Localized resident often seen among flocks of red-winged blackbirds. Suitable habitat present; moderate potential to occur.
Mammals		
Dulzura pocket mouse *Chaetodipus californicus femoralis*	--/CSC	Low. Typically found in chaparral, especially where it intergrades with grasslands. Habitat onsite only marginally suitable. The nearest observation recorded on the CNDDB is south of Palomar Airport Road, between El Camino Real and Interstate 5, approximately 2 miles to the northeast (CDFG 2006a).
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	--/CSC	Low to moderate. Occurs in open coastal sage scrub, particularly in open, weedy areas with sandy substrates. Habitat onsite is marginally suitable, although reported sightings are not along the beach. Nearest reported observations are just north of San Elijo Lagoon, approximately 5.5 miles to the southeast (CDFG 2006a).
Mexican long-tongued bat *Choeronycteris mexicana*	--/CSC	Low. Occurs in scrublands and forests, especially canyons with riparian vegetation. Roosts in mines, caves, and buildings. Only sporadically reported through of San Diego County, including one observation in Encinitas (CDFG 2006a).
Stephens' kangaroo rat *Dipodomys stephensi*	FE/ST	Low. Typically occurs in grasslands and open coastal sage scrub. Nearest presumed extant observation was made in 1988 near Guajome Lake (CDFG 2006a)

Table 5.2-4 continued

SPECIES	STATUS*	POTENTIAL TO OCCUR
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	--/CSC	Moderate. Occurs primarily in open sage scrub, chaparral, grasslands, croplands, and disturbed habitat with at least some shrub cover present. The project site supports abundant suitable habitat. The nearest observation recorded on the CNDDB is south of Palomar Airport Road, between El Camino Real and Interstate 5, approximately 2 miles to the northeast (CDFG 2006a).
San Diego desert woodrat *Neotoma lepida intermedia*	--/CSC	Low to moderate. Occurs in open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca. Marginally suitable habitat occurs onsite, although nesting sites are rare.
Pacific pocket mouse *Perognathus longimembris pacificus*	FE/CSC	Low. Occurs in coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces. Generally found in areas with fine-grained, sandy or gravelly substrates. Reported on the east side of Lux Canyon, approximately 5 miles south of the project site (CDFG 2006a).

Table 5.2-5
Impacts to Vegetation Communities

VEGETATION COMMUNITY/HABITAT	ACREAGE	
	EXISTING	IMPACT
Habitat Group A[1]		
Southern Coastal Salt Marsh	0.98	--
Riparian Woodland	0.17	--
Southern Willow Scrub	0.91	0.04
Mule Fat Scrub	0.19	--
Coastal and Valley Freshwater Marsh	2.21	--
Marine	1.30	--
Mudflats	0.03	--
Disturbed Wetland	0.11	--
Habitat Group B		
Southern coastal bluff scrub (including disturbed)	4.3	0.1
Beach/Coastal Dunes	25.4	--
Habitat Group C		
Diegan coastal sage scrub (including disturbed)	5.2	1.2
Habitat Group E		
Non-native Grassland	0.2	--
Habitat Group F		
Eucalyptus Woodland	0.3	0.3
Disturbed Habitat	24.6	21.1
Other		
Non-native Vegetation	21.0	9.7
Developed	43.4	15.2
Total	**130.4**	**47.6**

[1]Habitat Groups refer to MHCP habitat classification system.

Table 5.2-6
Impacts to Jurisdictional Areas

Vegetation Community/Habitat	Acreage	
	Corps	CDFG
Wetlands		
Southern Coastal Salt Marsh	--	--
Riparian Woodland	--	--
Southern Willow Scrub	0.04	0.04
Mule Fat Scrub	--	--
Coastal and Valley Freshwater Marsh	--	--
Mudflats	--	--
Disturbed Wetland	--	--
Subtotal	**0.04**	**0.04**
Non-Wetlands		
Marine	--	--
Drainage/Streambed	0.11	0.17
Subtotal	**0.11**	**0.17**
Total	**0.15**	**0.21**

Table 5.2-7
Mitigation Summary for Impacts to Vegetation Communities

Vegetation Community/Habitat	Acreage		Mitigation Ratio	Mitigation Required
	Existing	Impact		
Habitat Group A[1]				
Southern willow scrub	0.91	0.04	3:1	0.12
Habitat Group B				
Southern coastal bluff scrub (including disturbed)	4.3	0.1	3:1[2]	0.3[2]
Habitat Group C				
Diegan coastal sage scrub (including disturbed) - occupied	5.2	1.2	2:1[3]	2.4[3]
Habitat Group F				
Eucalyptus woodland	0.3	0.3	[4]	[4]
Disturbed habitat	24.6	21.1	[4]	[4]
Other				
Non-native vegetation	21.0	9.7	--	--
Developed	43.4	15.2	--	--
Total	**130.4**	**47.6**	--	**2.82**

[1]Habitat Groups refer to MHCP habitat classification system.

[2]It is assumed that all habitat types in Group B will be included in the proposed preserve system.

[3]Maximum avoidance and onsite conservation of Group C habitat is encouraged.

[4]Habitat in this group which is not conserved or mitigated onsite shall pay a per acre in lieu mitigation fee in an amount to be determined by the City Council. According to the Addendum to the City's HMP (December 1999, pg 10) in lieu mitigation fees are $8,000 for unoccupied Diegan coastal sage scrub, and chaparral (Group D), $4,000 for grassland (Group E), and $800 for eucalyptus woodland and disturbed habitat.

Table 5.2-8
Mitigation Summary for Impacts to Corps Jurisdiction Areas

Vegetation Community/Habitat	Existing	Impact	Mitigation Ratio	Mitigation Required
Wetlands				
Southern willow scrub	0.91	0.04	3:1	0.12
Non-wetlands				
Drainage	0.11	0.11	1:1	0.11
Total	**1.02**	**0.15**	**--**	**0.23**

Table 5.2-9
Mitigation Summary for Impacts to CDFG Jurisdiction Areas

Vegetation Community/Habitat	Existing	Impact	Mitigation Ratio	Mitigation Required
Wetlands				
Southern willow scrub	0.91	0.04	3:1	0.12
Non-wetlands				
Streambed	0.18	0.17	1:1	0.17
Total	**1.09**	**0.21**	**--**	**0.29**

Figure 5.2-1
City of Carlsbad HMP Designations

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Figure 5.2-2
Vegetation - Sensitive Resources

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Figure 5.2-3
Corps Jurisdictional Areas

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Figure 5.2-4
CDFG Jurisdictional Areas

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Figure 5.2-5
Vegetation and Sensitive Resources - Impacts

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Figure 5.2-6
Corps Jurisdictional Areas - Impacts

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Figure 5.2-7
CDFG Jurisdictional Areas -Impacts

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